

Grade 3 - Quadrilaterals and Partitioning Shapes

- Answer Key

Common Core 3.G.A.1, 3.G.A.2 · maths-pdf.fr/en/

This **quadrilaterals practice solutions** for 3rd Grade covers quadrilaterals and partitioning shapes (Common Core 3.G.A.1, 3.G.A.2), with a free PDF to print.

Every problem has a full worked solution and the final answer in bold. Check each shape by counting sides and right angles, and check each partition by comparing areas. Use this key to find mistakes with attributes and unit fractions.

Grade 3 · Common Core State Standards: **3.G.A.1, 3.G.A.2**

Quadrilaterals practice solutions: exercises 1 to 10

Exercise 1 - Sides and corners

"Quad" means four. A quadrilateral has **4 sides and 4 corners**.

Exercise 2 - Find the quadrilaterals

Count the sides of each shape. A has 5 sides and C has 3 sides, so they are not quadrilaterals. B, D, E, and F each have 4 sides.

B, D, E, F

Exercise 3 - Mystery shape one

4 equal sides and 4 right angles describe a square.

Square

Exercise 4 - Right angles in a rectangle

All 4 corners of a rectangle are square corners.

4 right angles

Exercise 5 - Name the tick-mark shape

All 4 sides have a tick mark, so they are equal. A quadrilateral with 4 equal sides and no right angles is a rhombus.

Rhombus

Exercise 6 - Square and rectangle

A rectangle is a quadrilateral with 4 right angles. Every square has 4 right angles.

True

Exercise 7 - Rhombus and square

A rhombus has 4 equal sides, but its corners do not have to be right angles. A rhombus that leans over has no right angles, so it is not a square.

False

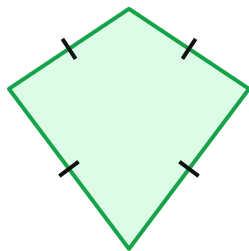
Exercise 8 - Mystery shape two

4 right angles make it a rectangle. The sides are not all equal, so it is not a square.

Rectangle

Exercise 9 - Draw a different quadrilateral

Join 4 points with straight sides so that the sides are not all equal and there are no 4 right angles. A kite works. Many other drawings are correct too.



A kite with 4 sides: two short sides and two long sides, no right angles

Exercise 10 - A shared attribute

Each one has 4 sides, so each is a quadrilateral. Each one also has two pairs of parallel sides. Either answer is correct.

4 sides (or 2 pairs of parallel sides)

Exercises 11 and up

Exercise 11 - Rhombus but not square

G has unequal sides. I has only one pair of parallel sides. J is a square. H has 4 equal sides and no right angles.

H

Exercise 12 - Complete the table

Shape	4 equal sides?	4 right angles?
Square	yes	yes
Rectangle that is not a square	no	yes
Rhombus that is not a square	yes	no

A rectangle that is not a square has long and short sides. A rhombus is not required to have right angles.

Exercise 13 - Fix the claim

Having 4 sides only makes a shape a quadrilateral. A rectangle must also have 4 right angles.

A trapezoid has just one pair of parallel sides and does not have 4 right angles.

4 sides is not enough to be a rectangle.

Exercise 14 - One part of six

One of 6 equal parts is 1 over 6.

$$\frac{1}{6}$$

Exercise 15 - Shaded part

There are 4 equal parts and 1 is shaded.

$$\frac{1}{4}$$

Exercise 16 - Is it a third?

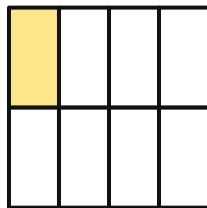
One third of 12 squares is $12 \div 3 = 4$ squares. The shaded part has 5 squares, which is more than 4.

No

Exercise 17 - Cracker pieces

The cracker is cut into 8 equal parts, so each part is 1 over 8.

$$\frac{1}{8}$$



A square cracker cut into 8 equal rectangles in 2 rows of 4, with one rectangle shaded

Exercise 18 - Quilt block

4 triangles with equal area means each is $\frac{1}{4}$ of the block.

$$\frac{1}{4}$$

Exercise 19 - Brownie pan

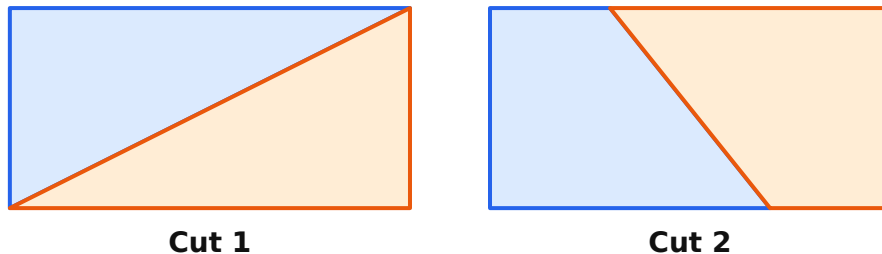
6 equal pieces means each piece is $\frac{1}{6}$ of the pan.

$$\frac{1}{6}$$

Exercise 20 - Two ways to halve

Cut 1 makes 2 triangles. Each has area $200 \times 100 \div 2 = 10,000$ square units. Cut 2 makes 2 trapezoids. Each has area $(60 + 140) \div 2 \times 100 = 10,000$ square units. Both cuts make two parts with equal area, so each part is $\frac{1}{2}$.

Yes, both cuts make halves.



Two copies of a 200 by 100 rectangle. Cut 1 is a diagonal line making 2 triangles. Cut 2 is a slanted line making 2 trapezoids. Each cut makes two parts of equal area

Exercise 21 - Garden beds

$12 \div 3 = 4$, so each bed has 4 squares. Each bed is $\frac{1}{3}$ of 3 equal parts.

4 squares; $\frac{1}{3}$ of the garden

Exercise 22 - Cut the shape

4 equal sides and 4 right angles make a square. Four equal parts are fourths. Cutting down the middle both ways makes 4 small squares. Cutting along both diagonals makes 4 triangles.

Square; $\frac{1}{4}$; small squares (or triangles)

Exercise 23 - Comparing pieces

Priya's pieces are halves: $\frac{1}{2}$. Jamal's pieces are fourths: $\frac{1}{4}$. The same napkin is shared by more pieces, so each piece is smaller.

Jamal's pieces are smaller.

Exercise 24 - Folded strip

The strip has 5 equal parts, so the unit fraction uses 5 in the bottom. Carlos used 6, which is the wrong number of parts.

Each part is $\frac{1}{5}$ of the strip.

Key facts behind this quadrilaterals practice solutions

Key facts

- A quadrilateral has exactly 4 straight sides and 4 corners.
- A rhombus has 4 equal sides; a rectangle has 4 right angles.
- A square is a rhombus and a rectangle at the same time.
- Some quadrilaterals are not rhombuses, rectangles, or squares.
- Equal parts have equal area, and each of n equal parts is $\frac{1}{n}$ of the whole.

How to use this quadrilaterals practice solutions

Cover each solution, solve the exercise again, then uncover it and compare every line. If your answer differs, find the first step that changed and redo the exercise from there.

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